To: Shamet, Stefania[Shamet.Stefania@epa.gov]
Cc: Bemis, James K (Jim) NAB[Jim.Bemis@usace.army.mil]
From: Jacobus, Thomas P WAD
Sent: Mon 2/2/2015 2:46:52 PM
Subject: One little glitch: Washington Aqueduct draining Georgetown Basin #1 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Stef,

I just held a planning meeting with our maintenance and operation groups to go over the details to make sure we will be exactly complying with this guidance once we receive permission to proceed.

In doing that we noticed something in paragraph h) that escaped me the first time. Could you please change the last word in the first sentence from "turbidity" to Total Suspended Solids?

That will keep the solids limitations that we reference in the procedure solely in TSS units.

Thank you.

Tom

-----Original Message-----
From: Jacobus, Thomas P WAD
Sent: Friday, January 30, 2015 3:53 PM
To: 'Shamet, Stefania'
Cc: Bemis, James K (Jim) NAB
Subject: RE: In response to your request for additional water specifics (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Thank you.

We will do this.

One typo in "g)" third sentence where it would say 8 hours instead of 8 waters.

Tom

-----Original Message-----
From: Shamet, Stefania [mailto:Shamet.Stefania@epa.gov]
Sent: Friday, January 30, 2015 2:25 PM
To: Jacobus, Thomas P WAD
Cc: Bemis, James K (Jim) NAB
Subject: [EXTERNAL] RE: In response to your request for additional water specifics (UNCLASSIFIED)

Does this capture it?

a) no discharge during spring spawning season (February 15- June 30);
b) the Corps will discharge only during daylight hours;
c) no discharge through Outfall 004 unless the flow in the Potomac River is equal to or greater than 1500 million gallons per day (mgd) as measured at the gauge station at Little Falls (2.90 feet in river elevation);
d) extend the duration of the discharge to a minimum of thirty-six (36) hours, using best efforts to

maintain a constant rate on an hourly basis;
e) EPA understands that there are approximately seven million gallons of untreated water currently in Basin 1 and that, following agitation, sampling has demonstrated that the agitated water contains 1.6 percent solids ;
f) Two hours prior to commencing the discharge each day, the Corps will agitate the solids to get them into suspension. After suspending the solids, the Corps will take a representative sample from the basin and determine whether the solids concentration is less than 1.6 percent (16,000 mg/L). If the solids concentration is 1.6 percent or greater, the Corps will introduce additional untreated water and repeat the agitation and sampling until the solids concentration is below 1.6 percent;
g) Once the discharge is commenced, the Corps will continue to introduce untreated water. For the first 8 hours, the Corps will introduce one unit of fresh water for every two units of water discharged. After the initial 8 waters, the Corps will gradually reduce introduction of untreated water to allow the basin to empty;
h) For the first 12 hours of the discharge, the Corps will collect a sample every two hours from the location identified in the Enclosure and analyze the sample for turbidity. For the second 12 hours of the discharge, the Corps will collect a sample every four hours. For the remainder of the discharge, the Corps will collect a sample every six hours. At the same time that each sample is taken, the Corps will visually monitor the size and location of any plume in the Potomac River;
i) Throughout the discharge, the Corps will collect and analyze a sample for percent solids every six hours;
j) In the event that any sample demonstrates that percent solids exceeds 1.6 (16,000 mg/L), the Corps will cease the discharge and repeat the process described in item f above.

-----Original Message-----
From: Jacobus, Thomas P WAD [mailto:Thomas.P.Jacobus@usace.army.mil]
Sent: Friday, January 30, 2015 1:26 PM
To: Shamet, Stefania
Cc: Bemis, James K (Jim) NAB
Subject: In response to your request for additional water specifics (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Stef,

No need to get it done today or even Monday. Tuesday or Wednesday will give us plenty of time to finish by the 14th (spawning season start).

Right now there are 7 million gallons of water in the basin that we added after we stopped the initial draining (which had emptied it of all the water but not the sediment).

If when we measure the TSS after we stir up and if it is more than 16,000 mg/L, we will add one million gallons, stir it up and measure it again.

If it then is less than 16,000 mg/L we will open the drain valve and begin taking two hour samples from the man hole.

Once we open the drain valve we will add one million more gallons.

We will then watch to make sure more water is leaving than entering (so that we are actually draining the basin). At that time we'll make the calculation one unit in for two units out (subparagraph "g").

Tom

-----Original Message-----

From: Shamet, Stefania [mailto:Shamet.Stefania@epa.gov]
Sent: Friday, January 30, 2015 11:52 AM
To: Jacobus, Thomas P WAD
Cc: Bemis, James K (Jim) NAB
Subject: [EXTERNAL] One additional thing --

Can you give me an estimate of the quantity of water you will use to flush Basin 1? I need to put some quantity of untreated water into the conditions.

Also -- how much heartburn would it cause if this isn't signed until Monday? Time is getting short and I'm worried that rushing this will cause a mistake.

-----Original Message-----
From: Jacobus, Thomas P WAD [mailto:Thomas.P.Jacobus@usace.army.mil]
Sent: Thursday, January 29, 2015 4:35 PM
To: Shamet, Stefania
Cc: Bemis, James K (Jim) NAB
Subject: One additional thought: Comments on DDOE discharge letter (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Stef,

I wanted to add one thought to the discussion. On page 4 of the DDOE letter they use a formula to relate TSS and Turbidity. They reference it coming from the 2001 EA Water Quality Study, which I am sure it did. However, we have never done any integral analytical work to demonstrate the accuracy of this formula across a broad range of particle concentration.

While we are willing and able to do both TSS (using the microwave method) and turbidity (using our Hach bench instrument) I think it would be better to select one technique as the threshold for action. When the basin was fully suspended a week ago I brought back a sample and asked for a TSS analysis. It was 1.38 percent solids which equates to 13,800 mg/lit. Based on that and a some extra water we'll add before use the front end loader to mix it and we take the first sample prior to initiating the discharge I'm confident we will be able to manage a 16,000 mg/L threshold for the discharge of basin #1.

I don't know if we could do this for a basin #2 discharge should that eventually ever occur because basin #2 is so much larger with a different geometric configuration making it impractical to put a bucket loader in it and do what we can do in basin #1.

So for establishing a precedent, if you could make this revision specifically only to basin #1 and allow us to find out how this really works out we could then come up with a basin #2-specific plan should we ever have to discharge basin #2 again with a full load of solids.

Tom
-----Original Message-----
From: Jacobus, Thomas P WAD
Sent: Thursday, January 29, 2015 3:36 PM
To: Shamet, Stefania
Cc: Bemis, James K (Jim) NAB
Subject: Comments on DDOE discharge letter (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Stef,

I've attached a spreadsheet sent to DDOE and the other stakeholder with the analysis of the samples taken during the discharge of Basin #2 in December 2014. That is the chart I make reference to in the notes I've added to DDOE's letter to Jon.

In those notes I did a rough conversion of their pdf to a Word document. I did not attempt to clean up the errors in translation because you have the original document (copy attached) and can read from that one -- but by placing my comments inside that document in "track changes" I thought that would be the best way for you to reference my comments to DDOE's original content.

The final chart on how much we estimated to be in the basins is what DDOE asked for at the beginning of the process and it's the best we can do analytically. To be sure it is not definitive and therefore we should not try to use it as the basis of a formula for limiting the concentration of any future bypass.

I need to leave the office at 5:00 pm to go to the funeral home. I will be back in the office at 6:00 am Friday.

Tom

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Caveats: NONE

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